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GENERAL ELECTRIC COMPANY
ANDREW C HESS
GE AIRCRAFT ENGINES
ONE NEUMANN WAY M/D H17
CINCINNATI, OH 452156301

EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT	PAPER NUMBER
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2123

10

DATE MAILED: 04/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Applicati n No.

09/532,977

Applicant(s)

FAIRMAN, RUBEN E.

Examiner

Eduardo Garcia-Otero

Art Unit

2123

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 31 March 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☒ they raise the issue of new matter (see Note below);
 - (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Attachment.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-20.

Claim(s) withdrawn from consideration: _____.

8. ☒ The drawing correction filed on 3/31/04 is a) ☒ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Attachment.

Art Unit: 2123

ADVISORY ACTION

Introduction

1. Title is: METHODS AND SYSTEMS FOR GENERATING PROFILE CURVES OF SOLID MODELS.
2. First named inventor is: FAIRMAN.
3. Claims 1-20 have been submitted, examined, and rejected.
4. This action is in response to Applicant's Amendment and drawings received 3/31/04.
5. The Amendment is not entered.
6. Only the drawings are accepted.
7. Application was filed 3/22/00, and no earlier priority is claimed.

Index of Prior Art

8. **Solid Edge** refers to Solid Edge User's Guide Version 7, MU28900-ENG, Unigraphics Solutions™, 1999, pages 2, and 30-51.
9. **Graham** refers to INSIDE Pro/ENGINEER Solutions, Gary Graham et al., Onworld Press, 1999, pages 76-80.
10. **Beaton** refers to US Patent 6,039,131.

Applicant's Remarks

11. ADDITIONAL DRAWINGS ARE ACCEPTED. The Examiner appreciates the proposed excellent new drawings (FIG 8 and 9) which clearly illustrate the differences between the prior art and the claims at issue. See *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966).
12. Specifically, FIG 8 illustrates the prior art "known profile curve generators", and is properly labeled "prior art". Said prior art has been discussed in the original specification page 1 line 17 to page 2 line 5.
13. Note that such drawings will be very useful in supporting Reasons for Allowance in future office actions. The drawings are entered, and satisfy the prior action's requirement.
14. AMENDMENTS NOT ENTERED. The Applicant's amendments are not entered because they raise new issues that would require further consideration and search, and raise the issue of new matter, and do not place the application in better form for appeal.

Art Unit: 2123

15. Specifically, Applicant's proposed amended claim 1 step (c) identifies a "seed revolved edge" before identifying a "revolved face adjacent" at step (d). This order appears contrary to Specification page 4, and appears contrary to Applicant's previous amendment (received 1/20/04) top of page 3, wherein the revolved faces are generated before identifying the seed revolved edge. This would provoke a rejection under 35 USC 112 first paragraph (written description), because not supported in the initial disclosure.
16. Additionally, the proposed claim 1 amendments also appear indefinite due to inconsistent use of the term "seed revolved edge". Specifically, the step (h) term "seed" generally refers to an initial starting point. In the proposed claim 1 amendments, the term "seed revolved edge" appears to be used with two distinct meanings: the initial "seed revolved edge" (see step (c) and step (h)), and additional sequential "seed revolved edges" used to iteratively locate the next revolved face (see step (g)). This would provoke a rejection under 35 USC 112 second paragraph rejection for indefiniteness.
17. The proposed amendments to the other independent claims 7 and 14 raise similar issues.
18. In view of the specification and the clarifying amendments and drawings, the disclosed invention appears to include (and to require) the following steps in the following order:
 - A-identify a plurality of revolved faces on the three-dimensional revolved solid.
 - B-select one of the revolved faces as a seed face.
 - C-starting with the seed face, identify adjacent revolved faces in a loopwise sequence forming a contiguous set of revolved faces until returning to the seed face.
 - D-identify the edge of the last adjacent revolved face with the seed face (the end of the loop) as a seed revolved edge.
 - E-starting with the seed revolved edge, generate profile curves representing the profile of each contiguous revolved face in a loopwise sequence until returning to the seed edge.
19. It is possible that the initial disclosure may also support some slight variations in the above steps (A through E). However, any substantially different amendments (such as the present proposed amendment of identifying a "seed revolved edge" before identifying a "revolved face adjacent") should cite support in the initial disclosure.

Art Unit: 2123

20. The claim interpretation and 35 USC 112 second paragraph rejections of the prior office action are repeated below for convenience, without change.

Claim Interpretation

21. In claim 1 (amended) limitation [4], the term “the profile curve” is interpreted as “the single equivalent profile curve”, with antecedent basis in limitation [3] term “a single equivalent profile curve”.
22. Similarly in claim 1 (amended) limitation [1], the term “the three dimensional solid” is interpreted as “the revolved three dimensional solid”, with antecedent basis in the preamble term “a revolved three-dimensional solid”. Note that the preamble word “revolved” is thus necessary to breathe life into the claim limitations, and is not a mere intended use.

35 USC § 112-Second Paragraph-indefinite claims

23. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
24. **Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite** for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
25. In claim 1 (currently amended), step (h), the term “**seed revolved edge**” is indefinite.
26. In claim 2, the term “**identifying** a seed revolved edge” is indefinite. Note that according to Specification page 4, and Applicant’s amendment top of page 3, the revolved faces are generated before identifying the seed revolved edge.
27. In view of the specification and the clarifying amendments and drawings, the disclosed invention appears to include (and to require) the following steps in the following order:
- A-identify a plurality of revolved faces on the three-dimensional revolved solid.
 - B-select one of the revolved faces as a seed face.
 - C-starting with the seed face, identify adjacent revolved faces in a loopwise sequence forming a contiguous set of revolved faces until returning to the seed face.
 - D-identify the edge of the last adjacent revolved face with the seed face (the end of the loop) as a seed revolved edge.

Art Unit: 2123

- E-starting with the seed revolved edge, generate profile curves representing the profile of each contiguous revolved face in a loopwise sequence until returning to the seed edge.

28. However, the above discussion appears inconsistent with FIG 2, which apparently begins by querying solid edges until a revolved edge results. The Examiner suggests amending FIG 2 to match the above A-E.

29. Claims 3-20 are rejected for the same reasons.

Conclusions and Potential Allowable Subject Matter

30. REJECTIONS. All claims stand rejected under 35 USC 112 second paragraph. The Amendments are not entered.

31. ALLOWABLE MATTER. The original disclosure appears to contain potentially allowable material. Specifically, Applicant's method of finding the profile of a revolved three-dimensional solid appears non-obvious. Generally said profiles are found by the intersection of a plane extended from the axis of symmetry, and Applicant's method does not use intersecting planes. Note that Solid Edge page 32-33 uses a reference plane to form an intersection curve by intersecting two surfaces.

32. Additionally, **Applicant's proposed FIG 8 and FIG 9 excellently illustrate the differences between the prior art and the claims at issue. Note that Applicant's method may yield very different results than the prior art method. Additionally, Applicant's method appears to yield a consistent result, whereas the prior art method result depends upon the angular orientation of the intersecting plane.** Said FIG 8 and FIG 9 are entered without objection, and are not new matter.

33. However, several hurdles must be overcome before allowance:

34. OBJECTION TO SPECIFICATION. The specification is objected to for not containing a brief description of the new drawings. Note that page two of the proposed amendment would satisfy said objection if submitted as a separate paper.

35. CLAIMS. The claims must particularly point out and distinctly claim the invention. The Examiner suggests deleting the claim 1 limitation "generating...", and then substituting the following limitations:

- A-identify a plurality of revolved faces on the three-dimensional revolved solid.

Art Unit: 2123

- B-select one of the revolved faces as a seed face.
 - C-starting with the seed face, identify adjacent revolved faces in a loopwise sequence forming a contiguous set of revolved faces until returning to the seed face.
 - D-identify the edge of the last adjacent revolved face with the seed face (the end of the loop) as a seed revolved edge.
 - E-starting with the seed revolved edge, generate profile curves representing the profile of each contiguous revolved face in a loopwise sequence until returning to the seed edge.
36. If claim 1 were amended in said fashion, while retaining the other present three limitations (selecting, inputting, outputting), then it would be allowable. Claim 4 would be allowable if dependent upon said claim 1. Claim 5 depends from claim 4. Claim 6 depends from claim 5. Claims 2 and 3 should be deleted because their limitations are absorbed into claim 1. Claims 7-20 should be amended or deleted in similar fashion.
37. DRAWINGS. FIG 2 should be amended to be consistent with the rest of the specification, as discussed above.

Communication

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 703-305-0857. The examiner can normally be reached on Tuesday through Friday from 9:00 AM to 8:00 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (703) 305-9704. The fax phone number for this group is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

* * * *



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER